

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. - 38. Canceled

39. (Currently Amended) Process A process for the calcining of gypsum, in a gypsum dryer/calciner comprising:

a calcining space;

a first pipe having an inlet connected to a source of hot gas and an outlet emerging in the calcining space;

a second pipe having an inlet connected to a source of gypsum and an outlet emerging in the calcining space, the second pipe being concentric with the first pipe;

a force-feeding screw positioned at least partially in the second pipe, the screw carrying the gypsum along in the calcining space;

the process comprising the stages of:

(i) supplying hot gases to the inlet of a first pipe;

(ii) supplying gypsum to the inlet of a second pipe concentric with

the first pipe;

(iii) carrying the gypsum along in the second pipe via a force-

feeding screw;

(iv) indirect heat exchange between the gypsum and the hot gases;

and

(v) calcining the gypsum to plaster.

40. (Currently Amended) ~~Process~~ The process according to ~~Claim~~ claim 39, wherein the gypsum is gypsum from flue gas desulphurization or natural gypsum or a mixture thereof.

41. (Currently Amended) ~~Process~~ The process according to ~~Claim~~ claim 39, wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise drying of the gypsum.

42. (Currently Amended) ~~Process~~ The process according to ~~Claim~~ claim 39, wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise drying and at least partially the calcining (v) of the gypsum to plaster.

43. (Currently Amended) ~~Process~~ The process according to ~~Claim~~ claim 39, wherein the calcining (v) comprises bringing the gypsum into contact with the hot gases, and wherein the calcining being of the flash type is a flash calcination.

44. (Currently Amended) ~~Process~~ The process according to ~~Claim~~ claim 39, wherein the time between bringing the gypsum into contact and its complete calcining is less than 10 sec.

45. (Currently Amended) Process The process according to Claim claim 39, wherein the calcining (v) comprises bringing the gypsum into contact with the hot gases, the calcining being carried out in a fluidized bed.

46. (Currently Amended) Process The process according to Claim claim 39, wherein the calcining stage comprises transportation of the gypsum from the outlet of the second pipe by entrainment by hot gases.

47. (Currently Amended) Process The process according to Claim claim 39, wherein the residence time of the gypsum or plaster or a mixture thereof in the second pipe is between 30 seconds and 5 minutes.

48. (Currently Amended) Process The process according to Claim claim 39, wherein the stage of indirect heat exchange between the gypsum and the hot gases comprises the calcining stage.

49. (Currently Amended) Process The process according to Claim claim 39, wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise the drying and at least partially the calcining (v) of the gypsum to plaster, the calcining (v) being completed by bringing the gypsum into contact with the hot gases, wherein the completed calcining ~~being of the flash type is a flash calcination~~, the duration of the stages (iii) and (iv) being between 30 seconds and 5 minutes and the duration of the calcining by contact with the hot gases being between 1 and 10 seconds.

50. (Currently Amended) Process The process according to Claim claim 49, the duration of the stages (iii) and (iv) being between 1 and 2 minutes and the duration of the calcining by contact with the hot gases being between 2 and 5 seconds.

51. (Currently Amended) Process The process according to Claim claim 49, additionally comprising a stage (iib) of milling the gypsum during the stage (iii) of carrying along.

52. (Currently Amended) Process A process for the calcining of gypsum, in a gypsum dryer/calciner comprising:

a calcining space;

a first pipe having an inlet connected to a source of hot gas and an outlet
emerging in the calcining space;

a second pipe having an inlet connected to a source of gypsum and an outlet
emerging in the calcining space, the second pipe being concentric with the first pipe;

a force-feeding screw positioned at least partially in the second pipe, the
screw carrying the gypsum along in the calcining space;

the process comprising the stages of:

- (i) supplying hot gases to the inlet of a first pipe;
- (ii) supplying gypsum to the inlet of a second pipe concentric with the first pipe;
- (iii) carrying the gypsum along in the second pipe via a force-feeding screw;

- (iv) indirect heat exchange between the gypsum and the hot gases; and
- (v) calcining the gypsum to plaster, by bringing the gypsum into contact with the hot gases, wherein the calcining being of the flash type is a flash calcination.

53. (Currently Amended) Process The process according to Claim claim 52, wherein the time between bringing the gypsum into contact and its complete calcining is less than 10 sec.

54. (Currently Amended) Process A process for the calcining of gypsum, in a gypsum dryer/calciner comprising:

a calcining space;
a first pipe having an inlet connected to a source of hot gas and an outlet
emerging in the calcining space;
a second pipe having an inlet connected to a source of gypsum and an outlet
emerging in the calcining space, the second pipe being concentric with the first pipe;
a force-feeding screw positioned at least partially in the second pipe, the
screw carrying the gypsum along in the calcining space;

the process comprising the stages of:

- (i) supplying hot gases to the inlet of a first pipe;
- (ii) supplying gypsum to the inlet of a second pipe concentric with the first pipe;
- (iii) carrying the gypsum along in the second pipe via a force-feeding screw;
- (iv) indirect heat exchange between the gypsum and the hot gases; and

(v) calcining the gypsum to plaster;
wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise the drying and at least partially the calcining (v) of the gypsum to plaster, the calcining (v) being completed by bringing the gypsum into contact with the hot gases, wherein the completed calcining being of the flash-type is a flash calcination, the duration of the stages (iii) and (iv) being between 30 seconds and 5 minutes and the duration of the calcining by contact with the hot gases being between 1 and 10 seconds.

55. (Currently Amended) Process The process according to Claim claim 54, the duration of the stages (iii) and (iv) being between 1 and 2 minutes and the duration of the calcining by contact with the hot gases being between 2 and 5 seconds.

56. - 81. Canceled